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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,657	04/05/2002	Bradford G. Crandall JR.	A-70608-7	1054

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EXAMINER

WANG, SHENGJUN

ART UNIT	PAPER NUMBER
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1617

DATE MAILED: 10/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/007,657

Applicant(s)

CRANDALL ET AL.

Examiner

Shengjun Wang

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-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,6-8,15 and 22-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 2,6-8,15 and 22-34 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 6) ☐ Other: _____

DETAILED ACTION

This application is a continuation of U.S. application No. 09/418,676.

Double Patenting Rejection

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 2, 6-8, 15 and 22-24, 26-28, 31-34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 and 7-12 of U.S. Patent No. 5,839,224 (IDS A22) in view of Sotome (IDS A8), Tsuei et al (US 5,589,194).

'224 claims a method of providing a susceptible plant with increased resistance to an insect or arachnid. The said method comprising administering (contacting plant part or plant surface) to said plant a composition comprising cinnamic compounds, such as cinnamic acid, cinnamic aldehyde and cinnamic alcohol. The composition may further comprise surfactant. See, particularly claims 1-2, and 7-12.

'224 does not teach expressly that the method may be used for increasing the plant's resistance to pathological microorganism or the employment of microencapsulated composition.

'224 also does not expressly teach that the said method will result in an increase of aromatic aldehyde or cinnamic acid in the treated plant.

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3. Sotome teach that cinnamic aldehyde is known to be useful against soil borne pathogens, such as nematode or other plant microbial pathogens. See the abstract and examples 1, 3 and 4 in columns 5-10. Stability of cinnamic aldehyde is desired for maintaining the bioactivity. See, column 2, lines 26-33. Tsuei et al. teach that microencapsulation of bioactive agents, such as antimicrobial agent, with beeswax or caruba wax is known to be useful for controlled release or protection of the active agent from premature reaction. See, particularly, column 2, line 63 bridging column 3, lines 20, column 4, lines 8-15, column 4, line 53 bridging column 5, line 12.

4. Therefore, it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed invention was made, to employ the method in '224 for providing the plant with increased resistance to pathological microorganism or to further modify the method by employing beeswax microencapsulated cinnamic compounds.

A person of ordinary skill in the art would have been motivated to employ the method in '224 for providing the plant with increased resistance to pathological microorganism or to further modify the method by employing beeswax microencapsulated cinnamic compounds because cinnamic compounds are known to be similarly useful against pathogenic microorganism and beeswax microencapsulation of the cinnamic compounds are known to be useful for protection the compound from premature reaction and for controlled release. Since the steps in the methods the instant application and in '224 are substantially identical, the effect of the methods on the level of endogenous cinnamic compound in plant would have been reasonably expected to be identical.

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5. Claims 2, 6-8, 15, 25-28, and 30-32 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of U.S. Patent No. 6,251,951.

6. '951 claims a method of protecting plants, including bell pepper, against microbial pathogens, comprising contact the plant with a composition comprising cinnamic aldehyde. The composition may further comprise saponin and the contacting may be realized by spraying. See, the claims. The claims in '951 differ from the claims herein only in scope. Specifically, Claims herein are generic to the claims in '951.

Claim Rejections 35 U.S.C. – 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 6-8, 15, 22-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sotome (US 4,978,686, A1, IDS of Jan. 10, 2000) in view of Tsuei et al. (US 5,589,194, of record), Yamashita (US 5,696,094) and Frear (IDS C5).

9. Sotome teach a method of protecting plant from the attack of insect pests, microorganism (including fungi) and pathogenic microbes by spraying or administering (irrigating) thereon a non-toxic and stable composition comprising cinnamic aldehyde and an antioxidant in the form of emulsion or powder. See the abstract and column 2, lines 64-68, and the claims. Similar composition may also be administered to the plant through roots. See, particularly, column 1,

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lines 46-57. cinnamic aldehyde is particularly known against soil borne pathogens, such as nematodes, see, particularly, example 3 in columns 9-10. Stability of cinnamic aldehyde is desired for maintaining the bioactivity. See, column 2, lines 26-33.

10. Sotome does not teach expressly to employ beeswax microencapsulated cinnamic aldehyde in the composition, or to employ surfactants, such as saponin, for the particularly plants herein claimed, or for the particularly plants herein.

However, Tsuei et al. teach that microencapsulation of bioactive agents, such as antimicrobial agent, with beeswax or carnuba wax is known to be useful for controlled release or protection of the active agent from premature reaction. See, particularly, column 2, line 63 bridging column 3, lines 20, column 4, lines 8-15, column 4, line 53 bridging column 5, line 12. Yamashita teaches that nematodes are well-known soil-borne pathogens to many plants including tomato, grapes, etc. See, column 1, lines 16-42. Frear teaches that saponin are a well-known spray adjuvant. See, page 185, the last paragraph.

Therefore, it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed invention was made, to further modify the method of Sotome by employing beeswax microencapsulated cinnamic aldehyde to the composition, or further employ saponin in the composition, or to employ the claimed method to plants such as grape, tomato etc.

A person of ordinary skill in the art would have been motivated to further modify the method of Sotome by employing beeswax microencapsulated cinnamic aldehyde to the composition because microorganism and beeswax microencapsulation of the cinnamic compounds are known to be useful for protecting the compound from premature reaction such as oxidation. The employment of saponin in the composition for spray is obvious because saponin

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is a well-known spray adjuvant. Employ the cinnamic containing composition to plants such as grape, tomato is obvious because the composition is known to be useful against the plants' microbial pathogens.

11. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sotome (US 4,978,686, A1, IDS of Jan. 10, 2000) in view of Tsuei et al. (US 5,589,194, of record), Yamashita (US 5,696,094) and Frear (IDS C5), and in further view of Winston (U.S. 5,415,877).

12. Claim 33 and 34 are obvious over the cited references for reasons as discussed above, and in further view of Winston.

13. Note previous cited reference do not teach expressly the employment of sodium bicarbonate as agent against microbial pathogen. However, Winston teaches that salt such as sodium bicarbonate is a well-known fungicide ingredient. See, particularly, column 1, lines 34-37. It is prima facie obvious to combine two compositions each of which is taught in the prior art to be useful for same purpose in order to form third composition that is to be used for very the same purpose; idea of combining them flows logically from their having been individually taught in prior art; thus, the claimed invention which employs a combination of two known fungicides sets forth prima facie obvious subject matter. See In re Kerkhoven, 205 USPQ 1069.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shengjun Wang, Ph.D. whose telephone number is (703) 308-4554. The examiner can normally be reached on Monday-Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, can be reached on (703) 305-1877. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4556.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

Examiner

A handwritten signature in black ink, appearing to read 'S. Wang', with a stylized flourish at the end.

Shengjun Wang

October 5, 2002